(1) Discuss communicable diseases under the following headings

Definition of communicable diseases: Communicable diseases are illnesses caused by infectious agents like virus or bacteria that spread from one person to another, or from animals to humans. They can be transmitted through various routes, including contact with contaminated surfaces, bodily fluids, insect bites, or airborne droplets. Examples include influenza, measles, Hiv.

(i)Causative agents: Causative agent is an organism, substance, or form of radiation that directly causes a specific effect, most commonly an illness or disease. This can include biological pathogens like viruses, bacteria, and parasites, or non-biological factors like toxins, chemicals, or radiation.

(ii) Modes of transmission: Communicable diseases spread through various modes, including direct contact (touch, kissing), indirect contact with contaminated surfaces or objects (fomites), droplet spread from coughing or sneezing, airborne transmission through the air, and vectors like insects that carry pathogens. Other routes include food or waterborne transmission, sexual contact, bloodborne transmission, and from mother to child (vertical transmission).

(2)Methods of prevention and control: Methods of prevention and control include personal hygiene (frequent handwashing, covering coughs), environmental measures (cleaning, disinfection, waste management, safe water and sanitation), personal protective equipment (PPE), and immunization programs.

(2) Explain the terms endemic, epidemic and pandemic, giving examples

(i) Endemic: Endemic is a term for something that is consistently found within a specific geographic area or population. For example, malaria is an endemic disease in many parts of Africa.

(ii) Epidemic: Epidemic is the rapid spread of a disease or health behavior to a large number of people in a specific area at a faster rate than is normally expected. Examples include the 2014 Ebola outbreak in West Africa.

(iii) Pandemic: Pandemic is a widespread occurrence of an infectious disease over a whole country at a particular time. Example covid-19.

(3) Defined distinguish between Incidence and prevalence

(i) Incidence: The rate of new cases of a disease occurring in a population over a specific

period.

Examples: During a flu outbreak, the incidence rate of 100 new cases per 10,000 people over one year indicates the risk of getting the flu in that year.

Important of Incidence in epidemiology

(i) Risk assessment: Measures the risk of contracting a disease.

(ii) Tracking outbreaks: Helps track the speed of an epidemic's spread.

(iii) Evaluating prevention: Helps determine the effectiveness of prevention and control measures.

(ii) Prevalence: The proportion of a population that has a disease at a specific point in time.

Example: If 500 out of 50,000 people have diabetes in a city, the prevalence of diabetes is 1%.

Important of prevalence in epidemiology

(i) Disease burden: Shows how widespread a disease is at a given moment.

(ii) Resource allocation: Helps in planning for healthcare needs, such as hospital beds and funding.

(iii) Monitoring chronic conditions: Useful for diseases of longer duration, like HIV.

(4) Describe the measures used in controlling communicable disease at the community: Community- level communicable disease control measures include individual behavioral changes like handwashing and vaccination, environmental sanitation such as safe water and waste disposal, and public health actions like surveillance, isolation, and quarantine to monitor and contain outbreaks.

(5) write short notes on the following:

(i) Epidemiological triangle : A model that explains disease causation as a result of the interaction between three components: the agent, the host, and the environment.

(ii) Vehicle- born transmission: The spread of infectious agents through contaminated inanimate objects or materials, such as water, food, blood, and fomites (like doorknobs, tissues, or surgical instruments).

(iii) Point prevalence and period prevalence: Point prevalence is the proportion of a population with a disease or condition at a specific moment in time, like a snapshot. Period prevalence is the proportion of a population with the condition at any time during a specified period, such as a month or a year.